

vations are not yet sufficient to define the elements with precision. It was undertaken by Captain Jacob for the purpose of ascertaining what alteration was required in Mr. Hind's elements to make them represent his own observations, and those of Captain Smyth, in 1838 and 43.

In computing the orbits of the other stars, the method of least squares has been employed to correct the elements which were obtained in Sir J. Herschel's manner.

The stars which Capt. Jacob has computed are *Castor*, ξ *Ursæ*, γ *Virginis*, and 70 *Ophiuchi*.

Notice respecting a pair of Chinese Planispheres brought from Chusan, and presented to the Society, by Capt Sir E. Home, Bart. R.N. By Mr. Woolgar.

The hemispheres are of 25 inches internal diameter, projected stereographically on the plane of the ecliptic. The magnitudes of the stars are represented *conventionally* by a method which makes a star of the 1st magnitude less conspicuous than one of the 3d or 4th. There are six magnitudes. The principal stars are connected by right lines. The groups thus formed sometimes do, and sometimes do not, agree with those found in some European maps.

The map is executed coarsely by block printing. The positions and magnitudes are incorrect. There is no appearance of European origin. The selection of stars of the 5th and 6th magnitude could not well have been copied, and some stars are inserted which are not to be found in any common catalogue or map. The epoch seems to be about A.D. 1735.

A Historical Survey of Comets. By Dr. Michelsen.

The author commences with a general review of the early history of Cometary Astronomy, and notices the uncertainty attaching to ancient European accounts of comets: the information given us by the Chinese annalists, Ma-tuon-lin, as sketched by Mailla, Gaubil, and De Guignes, presenting a more definite aspect. He remarks that the comet which appeared in the time of Anaxagoras may be considered the first established historically, though as yet unconfirmed by any astronomical calculation.

The author then proceeds to give a detailed description of the most celebrated comets, commencing with Halley's, which he endeavours to trace back as far as the year 426 B.C. The various confirmed appearances of the comet since 1456 are then described, and also circumstances relating to comets in previous centuries, which might possibly be identical with Halley's.

The comet of Encke is traced from its discovery by Mechain, in 1786, to the present time. The detection of a resisting medium in space from the motion of this comet, and the determination (from its perturbations) of the mass of *Mercury*, are also noticed.

Biela's Comet is described at its different appearances since the year 1772. The author notices the supposed identity of the comets

of 1264 and 1556, and of these of 1532 and 1661. The great comet of 1843 is described, and, assuming the period of revolution to be about 175 years, some ancient comets are mentioned which might possibly be the same.

Those comets which, though only observed at one appearance, yet remained visible long enough to allow their periodicity to be determined, are placed in a separate class. The comet of Olbers in 1815, is computed by Bessel to have a period of 74 years, and the next return is fixed for February 9, 1887. The comets of 1740 and 1666 do not shew the least resemblance to this. The great comet of 1811 was found by Argelander to have a period of 3066 years. The second comet of 1811 was computed by Nicolai; it was much fainter than the first: the period assigned is about 763 years. Encke made the time of revolution of the comet of 1812 about 71 years. The comet of 1807 was computed by Bessel, who fixed the period at about 1714 years.

The author describes the celebrated comet of 1680, that of Lexell in 1770, the comets of 1769, 1780, 1783, 1793, &c., and concludes that there are three comets whose return is certain, five probably periodical, from the similarity of their elements with those of preceding comets, and nineteen for which elliptical orbits have been calculated with some degree of probability, making the total number of periodical comets twenty-seven.

In the latter part of the paper a general account of remarkable comets is given, commencing with that mentioned by Ovid, and continued down to 1843. The author has collected together the best determinations of the orbits of periodical comets, and many particulars relating to the physical appearance of these bodies.

Errata in Last Number.

Page 173, line 25, for $6\frac{1}{2}$ read $6\frac{1}{3}$.

„ last line but one, for 185 read 585.

Page 176, line 29, for *Baer* read *Beer*.

Page 177, line 26. *Insert.* The eclipse of 1567 was described as *annular*, Kepler afterwards proved by calculation that it was *total*, and having observed a luminous ring in the eclipse of 1598, he explained the former appearance in the same way. [M. Arago's Report, *Comptes Rendus*, 1842. i. 848.]

Page 178, line 7, for *La Hiri* read *La Hire*.

Page 179, line 23, for *natural* read *mutual*.